

For each equation determine the % growth or decay.

13.  $y = 1298(1.63)^x$

63% growth

14.  $y = 0.65(1.3)^x$

30% growth

15.  $f(x) = 2(0.65)^x$

35% decay

16.  $y = 12(17/10)^x$

70% growth

17.  $y = 0.8(1/8)^x$

87.5% Decay

18.  $y = 16(1/4)^x$

75% decay.

Solve.

10.  $25^{x+1} = 125^{2x}$

$$(5^2)^{x+1} = (5^3)^{2x}$$

$$2x+2 = 6x$$

$$2 = 4x \quad x = \frac{1}{2}$$

Complete.

11.  $2^{3x} = 64$

$$2^{3x} = 2^6$$

$$3x = 6$$

$$x = 2$$

12.  $100^x = 0.01$

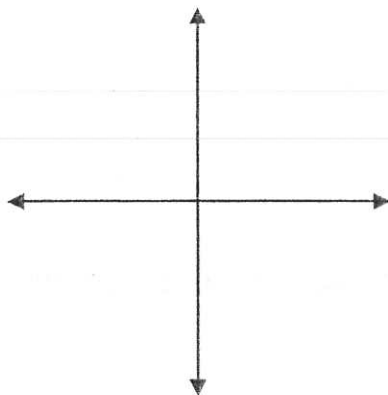
$$100^x = \frac{1}{100}$$

$$100^x = 100^{-1}$$

$$x = -1$$

10.  $y = 6^{x+1}$

x	y



% growth/decay:

500% growth

Domain:  $x = \mathbb{R}$

Range:  $y > 0$

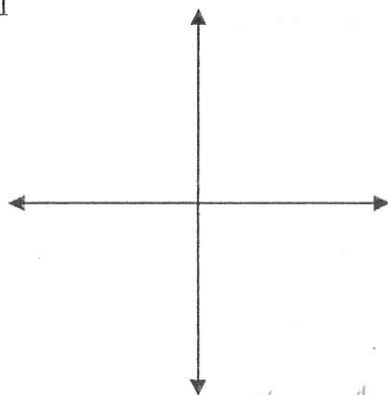
y-intercept:  $(0, 1)$

Equation for the asymptote:

$$y = 0$$

11.  $y = 2(1.5)^x - 1$

x	y



% growth/decay: 50% growth

Domain:  $x = \mathbb{R}$

Range:  $y > -1$

y-intercept:  $(0, 1)$

Equation for the asymptote:

$$y = -1$$

13.

$$7 = (6^2)^x$$

$$7 = 2^x$$

$$x = \frac{1}{2}$$

$$15. \left(\frac{1}{2}\right)^{2x} = 2^4$$

$$2^{-2x} = 2^4$$

$$-2x = 4$$

$$x = -2$$

16.

$$(2^{\frac{2}{5}})^x = 2^{-1}$$

$$\frac{2}{5}x = -1$$

$$10x = -5$$

$$x = -\frac{1}{2}$$